**Remarks/Arguments**

These remarks are in response to the Office Action dated February 25, 2004. This reply is timely filed.

At the time of the Office Action, claims 1-17 were pending in the application. Claim 1 was objected to for informalities and was rejected under 35 U.S.C. §102(e). Claim 1 has been canceled. Claims 2-17 were rejected under 35 U.S.C. §103(a). The rejections are set out in more detail below.

I. Brief Review of Applicants' Invention

Applicants' invention relates to a distributed messaging system for transmitting topical messages from data publishers to data consumers. The system and method of the present invention can re-synchronize interprocess communications between data publishers and data consumers in a distributed messaging system. The invention includes a message topic server, a plurality of message routers, and a plurality of message adapters distributed across several computing devices in a computer communications network.

The message adapters are communicatively linked to applications. Each application can be one of a data consumer or a data publisher, each executing in a computing device. Data consumers consume and process data messages published by data publishers. Conversely, data publishers can publish data messages for consumption by data consumers.

Data publishers can be communicatively linked to corresponding message adapters executing in the same computing device. Similarly, data consumers can be communicatively linked to message adapters executing in the same computing device.

Each message adapter can be communicatively linked to a message router, also executing in the same computing device. Moreover, each message router can be communicatively linked to a message topic server, although the message topic server typically executes in another computing device.

The message topic server can have a list of message topics to which data consumers can subscribe and a list of data publishers which publish data messages consonant with the message topics. By registering a message topic, a data publisher can provide data messages consonant with the message topic to those data consumers which choose to subscribe to the registered message topic.

Through its associated message router, a data consumer can subscribe to a message topic which has been published by a data publisher. The message topic server can respond to a subscription request by transmitting to the associated message router a host identification of a message router associated with the data publisher from which the requesting data consumer can receive data messages consonant with the requested message topic. Notably, an interprocess communications link then can be established between the message router that is associated with the data consumer and the message router that is associated with the data publisher. Messages consonant with the requested message topic then can be transmitted over the interprocess communications link.

Notably, the distributed messaging system of the present invention can utilize a shared state memory which stores both message traffic and network configuration data. More particularly, the three network components (message adaptor, message router and message topic server) can form the shared state memory. In consequence, the

messag traffic and network configuration data is readily available for reconstruction and re-synchronization of interprocess communications should the distributed messaging system experience a communications fault with any combination of the three network components. Moreover, by virtue of the shared state memory architecture of the present invention, recovery and re-synchronization processes can be implemented without loss of data.

II. Claim Rejections on Art

Claims 2, 5-10 and 13-17 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,298,455 to Knapman, et al. ("Knapman") in view of U.S. Patent No. 6,070,191 to Narendran, et al. ("Narendran"). Claims 3-4 and 11-12 are rejected under 35 U.S.C. §103(a) as being unpatentable over Knapman in view Narendran and in further view of U.S. Patent No. 6,507,863 to Novaes ("Novaes").

Knapman discloses a technique for carrying out "failover." In failover, should a first distribution agent fail, other distribution agents which communicate directly with the first distribution agent will transfer their subscriptions to a second distribution agent which is a sibling of the first distribution agent. Knapman implements failover by providing a data processing broker network having a plurality of broker data processing apparatuses. Each of the apparatuses is configured to assign a broker-specific sequence number to a received message. A first of the broker apparatuses has a software unit for determining a failure of a neighboring broker apparatus which has provided published messages on a first topic. The first broker apparatus also includes a software unit for sending historic resubscriptions with respect to the first topic to each

antecedent broker apparatus of the failed neighboring broker apparatus. The historic resubscriptions are sent using the broker-specific sequence number corresponding to each antecedent broker apparatus.

Nerendran discloses a server system for processing client requests received over a communication network. The server system includes a cluster of N document servers and at least one redirection server. The redirection server receives a client request from the network and redirects it to one of the document servers, based on a set of pre-computed redirection probabilities. Each of the document servers may be an HTTP server that manages a set of documents locally and can service client requests only for the locally-available documents. A load distribution algorithm is used to distribute a set of documents across the document servers. In the event of a server failure, the redirection probabilities are recomputed and a URL of a new server is provided to clients requesting documents contained on the failed server.

Amended claims 2 and 10 recite sharing state memory among at least a message topic server, a first message router and a second message router to store both message traffic and network configuration data. In consequence, the message traffic and network configuration data is readily available for reconstruction and re-synchronization of interprocess communications should the distributed messaging system experience a communications fault with any combination of the network components. Moreover, by virtue of the shared state memory architecture of the present invention, recovery and re-synchronization processes can be implemented without loss of data.

Neither Knapman nor Narendran teach or suggest sharing state memory among at least a message topic server and first and second message routers to store both message traffic and network configuration data. Instead, to recover from a broker failure within a network, Knapman discloses that each of a plurality of brokers assigns its own sequence number to a published message, and these sequence numbers are used to perform a historic resubscription of data topics. Importantly, there is no teaching or suggestion that these sequence numbers contain message traffic or network configuration data. Moreover, there is no teaching or suggestion that the sequence numbers are maintained in shared state memory.

Similarly, Nerendran provides no shared state memory or sharing of message traffic and network configuration data. Instead, Nerendran provides clients attempting to access documents on a failed document server with redirection information that can be used to contact an alternate server having the documents that the client is attempting to access. More particularly, when the document server is down, a URL is provided for the alternate document server. A URL is merely a uniform resource locator that is used to access an internet web site. Importantly, a URL does not contain message traffic or network configuration data. Moreover, there is no teaching or suggestion from Nerendran that the URL is contained in shared state memory.

Claims 5 and 13 recite establishing an interprocess communications connection in response to detecting an interruption. The interprocess communications connection is established between the first message router and the message router communicatively linked to a data publisher able to resume providing the data messages. Neither Knapman nor Narendran t ach or suggest this limitation. Instead,

after a broker failure, Knapman performs historic resubscriptions, which do not include establishing an interprocess communications connection. As noted, rather than establishing an interprocess communications connection when a server is down, Narendran merely provides a URL for an alternate server which can be accessed to obtain documents.

Claims 3-4, 6-9, 11-12 and 14-17 are believed allowable at least based on their dependence on allowable base claims.

III. New Claim

Claim 18 has been added to recite additional features of Applicants' invention that are believed to allowable.

IV. Conclusion

Applicants have made every effort to present claims which distinguish over the prior art, and it is believed that all claims are in condition for allowance. Nevertheless, Applicants invite the Examiner to call the undersigned if it is believed that a telephonic interview would expedite the prosecution of the application to an allowance. In view of the foregoing remarks, Applicants respectfully requests reconsideration and prompt allowance of the pending claims.

Respectfully submitted,

5/25/04
Date

Robert J. Sacco
Registration No. 35,667
Terry W. Forsythe
Registration No. 47,569
SACCO & ASSOCIATES, P.A.
P.O. Box 30999
Palm Beach Gardens, FL 33420-0999
Tel: 561-626-2222